



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,294	07/24/2003	Kitchener Clark Wilson	P03-KITCH-0044	1869
34744 7590 01/10/2007 THE LAW OFFICE OF RICHARD S ERBE P.O. BOX 418 5380 SENECA PLACE SIMI VALLEY, CA 93062			EXAMINER GONZALEZ, JULIO C	
			ART UNIT 2834	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/10/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/626,294

Applicant(s)

WILSON, KITCHENER CLARK

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 30,31,59,60,64,66-79,81,82,87 and 89-104 is/are pending in the application.
- 4a) Of the above claim(s) 64 and 66-79 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30,31,59,60,81,82 and 87 is/are allowed.
- 6) ☒ Claim(s) 89,90,92-95,97-100,102 and 103 is/are rejected.
- 7) ☒ Claim(s) 91,96,101 and 104 is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 89, 92, 93, 94, 99, 102, 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Triplett (US 4,504,761) in view of Breed et al (US 6,662,642).

Triplett discloses a device for obtaining energy from tire 38 and a piezoelectric device 112 being mounted on the inner walls of the tire 38 and the piezoelectric device responds to the deflections of the tire (see abstract).

However, Triplett does not disclose having a base plate.

On the other hand, Breed et al discloses for the purpose of monitoring economically and efficiently the conditions of a tire, a base plate 137 being attached to a device 40, 135 within a tire (see figure 9B). Moreover, the device 135 can be adapted to be embedded in the tire (see figure 3A).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a device for obtaining energy as disclosed by

Triplett and to use a base plate for the purpose of monitoring economically and efficiently the conditions of a tire as disclosed by Breed et al.

3. Claim 97 is rejected under 35 U.S.C. 103(a) as being unpatentable over Triplett and Breed et al as applied to claims 89 above, and further in view of Balzer et al (US 6,462,650).

The combined device discloses all of the elements above. However, the combined device does not disclose an adhesive patch.

On the other hand, Balzer et al discloses for the purpose of improving the durability of the system, an adhesive patch 30 being associated with a base plate E (see figure 1; column 6, lines 48-56). Moreover, it is disclosed that fasteners 20, 22 are used (column 6, lines 56-67) and a substrate being attached to a tire by using a base plate (column 3, lines 45-54).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined device as disclosed above and to modify the invention by using an adhesive patch for the purpose of improving the durability of the system as taught by Balzer et al.

4. Claim 98 is rejected under 35 U.S.C. 103(a) as being unpatentable over Triplett, Breed et al and Balzer et al as applied to claim 97 above, and further in view of Koch et al (US 5,573,611).

The combined device discloses all of the elements above. However, the combined device does not disclose that a patch covers a base and contacts an inner wall of a tire.

On the other hand, Koch et al discloses for the purpose of monitoring effectively the conditions of a tire, electronic devices 17 being located on a base and the base contacting the inner wall of tire 5 and a patch 80 having a surface overlaying the surface of the base (see figure 7) and device being sandwiched between the patch 80 and tire surface 5. Moreover, the patch 80 has an aperture 84 (see figures 7, 9, 10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined device as disclosed above and to have a device between a patch and a tire surface for the purpose of monitoring effectively the conditions of a tire as disclosed by Koch et al.

5. Claim 95 is rejected under 35 U.S.C. 103(a) as being unpatentable over Triplett and Breed et al as applied to claims 89 above, and further in view of Thomas (US 4,405,872).

The combined device discloses all of the elements above. However, the combined device does not disclose that the energy converter has a magnet and a coil.

On the other hand, Thomas discloses for the purpose of providing a reliable and inexpensive way of generating electricity in a tire, a magnet 26 and coil 38 (see figures 4, 5) and moving the magnet and the coil relative to each other (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined device as disclosed above and to modify the invention by using a magnet and a coil for the purpose of providing a reliable and inexpensive way of generating electricity in a tire as disclosed by Thomas.

6. Claims 90, 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Triplett and Breed et al as applied to claims 89, 99 above, and further in view of Margolis et al (US 5,570,286).

The combined device discloses all of the elements above. However, the combined device does not disclose taking into consideration the pulse width of a signal.

On the other hand, Margolis et al discloses for the purpose of achieving optimum performance of a regenerative system that pulse width is taken into account when managing energy sources (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined device as disclosed above and to take into account the pulse width discloses for the purpose of achieving optimum performance of a regenerative system as disclosed by Margolis et al.

***Allowable Subject Matter***

7. Claims 30, 31, 59, 60, 81, 82, 87 are allowed.
8. Claims 91, 96, 101, 104 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

9. Applicant's arguments filed 12/01/06 have been fully considered but they are not persuasive.

Triplett teaches using electronic devices to capture energy generated by a piezoelectric device (column 1, line 31-33). Such electronic components can be transformers, converters, batteries, coils, etc (column 3, lines 33-59). It is inherent that alternating current has pulses since such electricity is transferred/produced at a certain frequency rate (e.g. 60 Hertz). Moreover, direct current can also has pulses. Also, the electronics in Triplett are adapted to the tire deflections for capturing energy (see Abstract & column 1, lines 31-36). Breed et al also teaches that electronic devices can be used for powering other devices or producing energy (column 28, line 61).

Respectfully, the claims are not specific enough to describe the characteristics of the electrical energy and how such characteristics affect the present invention.

The prior art, Triplett discloses that the power is one characteristic since the discharging/charging of the battery is taken into account (column 3, lines 41-43, 53-60). More specifically, an electron flow in a voltage coil is delivered to the battery, thus voltage is one characteristic taken into account (column 3, line 58-60).

With respect to claims 90, 100, the Margolis et al reference was mainly used to show that pulse widths of generated energy by energy management elements are taken into account to minimized system energy dissipation and that pulses (e.g. high frequency) are taken into consideration (see abstract; column 5, line 65 –



column 6, line 5). Moreover, it is disclosed that the energy management element is able to control energy storage devices (e.g. capacitors), thus the energy stored is directly/indirectly controlled using pulse width modulation (column 6, lines 52-54).

With respect to claims 96, 104, the Remarks sent are convincing. Thus such claims have been objected.

10. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

11. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In

this case, Triplett discloses the production of energy using piezoelectric devices inside a tire. More specifically, the use of the deflection of the tire drives the piezoelectric device and in turn, power is generated (see abstract). Breed et al teaches that piezoelectric devices can be mounted on tires for producing electricity (column 6, lines 46, 47). Thus both Prior Art references are very much related to each other.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is 571-272-2024. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Julio C. Gonzalez  
Primary Examiner  
Art Unit 2834

Jcg

January 3, 2006